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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,926	03/30/2001	Hisashi Tsujimoto	09792909-4817	8279

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EXAMINER	
CREPEAU, JONATHAN	
ART UNIT	**PAPER NUMBER**
1745	6

DATE MAILED: 12/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-6

Office Action Summary	Application No.	Applicant(s)	
	09/822,926	TSUJIMOTO ET AL.	
	Examiner	Art Unit	
	Jonathan S. Crepeau	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2001* .

2a)☐ This action is FINAL. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4-6, 8-12, 14, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/59214. Regarding claim 1, the reference is directed to a nonaqueous electrolyte secondary battery (see page 1, lines 1-6). Regarding claims 1, 4, 5, and 16, the positive electrode contains a complex oxide of manganese, lithium, and cobalt, and a complex oxide of nickel, lithium, and cobalt (see page 15, lines 23-25). Regarding claims 1, 6, and 16, the oxides have the formulas $Li_xCo_yMn_{2-y}O_4$ ($0<y<0.6$) and $LiNi_xCo_{1-x}O_2$ ($0<x<1$), respectively (see page 15, lines 23-25). For example, the manganese oxide may comprise $Li_2Co_{0.2}Mn_{1.8}O_4$ (page 16, line 28), and the nickel oxide may comprise $LiNi_{0.5}Co_{0.5}O_2$. Thus, the claimed formulas and subscript ranges are anticipated. Regarding claim 2, the manganese oxide may be present in an amount of 20-98% by weight of the total electrode structure, and the nickel oxide may be present in an amount of 1-79% (see page 15, lines 23-25). Regarding claims 8-10, the negative electrode contains a material capable of occluding and releasing lithium (e.g., graphite, coke, or carbon black; see page 15, lines 18-20). Regarding claims 9, 11, and 12, the negative electrode may also contain an alloy of lithium and a Group 4B element such as Sn or Si (see page 15, line 20; page 3, lines 6-19). Regarding claim 14, the electrolyte contains a salt and a

solvent such as ethylene carbonate, propylene carbonate, or diethyl carbonate (see page 16, lines 18-23). Although the reference does not expressly teach the process limitations recited in claim 17, the patentability of a product does not depend on its method of production. If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Furthermore, once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). See also MPEP §2113.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 7, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/59214 in view of Fujimoto et al (U.S. Patent 5,683,834).

WO 99/59214 is applied to claims 1, 2, 4-6, 8-12, 14, 16, and 17 for the reasons stated above. However, the reference does not expressly teach that the mean particle size of the positive active material is 30 microns or below, as recited in claim 3. The reference further does not teach that the cell is spirally wound through a microporous separator and that the electrode layers are coated on both sides of their respective current collectors (claims 7 and 13), or that the electrolyte is solid or gelled (claim 15).

The patent of Fujimoto et al. is directed to a spirally-wound nonaqueous cell. The separator/electrolyte element may be comprised of a microporous separator, a gelling polymer containing the electrolytic solution, or an inorganic solid electrolyte (see col. 14, line 42 et seq.). Both sides of each current collector are coated with the respective active material (see abstract). The positive electrode active material (e.g., a nickel or manganese lithium oxide) preferably has an average particle size of from 0.1 to 50 microns (see col. 11, lines 52-55 and col. 12, lines 15-17).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to incorporate the double-sided, spirally-wound electrode configuration of Fujimoto et al. into the battery of WO '214. In the abstract, Fujimoto et al. teach that "the battery is excellent in charge and discharge cycle characteristics, and the sheet electrodes have excellent winding properties when rolled up into cylinders." Accordingly, the artisan would be motivated the double-sided, spirally-wound electrode configuration of Fujimoto et al. into the battery of WO '214.

Additionally, the artisan would be motivated to incorporate any of the electrolyte/ separator configurations of Fujimoto et al. into the battery of WO '214. Fujimoto et al. describe

these configurations as "suitable" for use in the battery. Accordingly, the artisan would be motivated to use one of these configurations in the battery of WO '214.

Finally, regarding the mean particle size range of 30 microns and below recited in claim 3, Fujimoto's disclosure of 0.1-50 microns is considered to render this limitation obvious. The disclosure of Fujimoto et al. sufficiently guides the artisan to use a particle size of 30 microns or less. Furthermore, it is known that a smaller particle size results in increased electrochemical activity. It has been held that the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (703) 305-0051. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached at (703) 308-4333. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900. Additionally, documents may be faxed to (703) 305-5408 or (703) 305-5433.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700

JSC

December 21, 2002